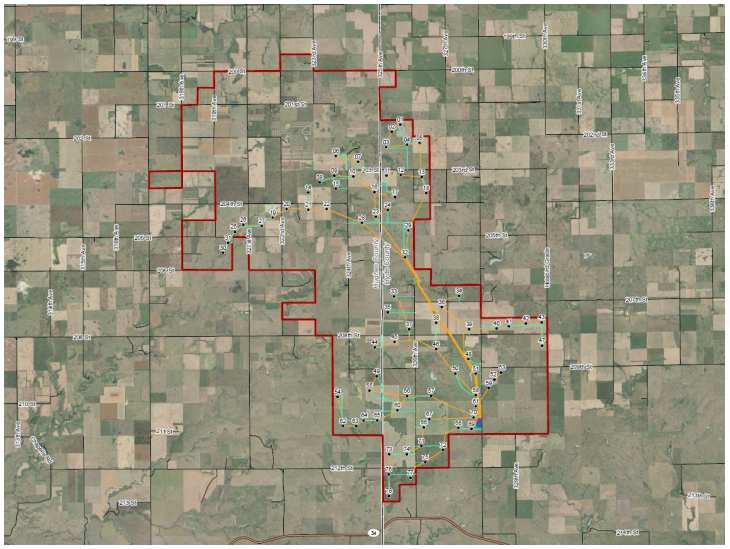
North Bend Wind Project

Hughes and Hyde Counties, South Dakota

Casey Willis, Senior Advisor

August 11, 2021

North Bend Wind Project
Overview



- Project was originated in 2015.
- Located on approximately 40,000 acres of land under easement. Setbacks and siting constraints limit the number of acres that could be utilized.
- Approximately 40 landowner groups participating in the Project.
- To date, Engie has completed extensive wind resource evaluations, over three years of biological/environmental field studies, and finalized the interconnection studies.
- PPAs have not been signed for the Project.
- Selected GE to supply wind turbines.
- Selected Wanzek to construct the Project.
- Target Commercial Operation – End of 2022.

North Bend Wind Project
Project Components

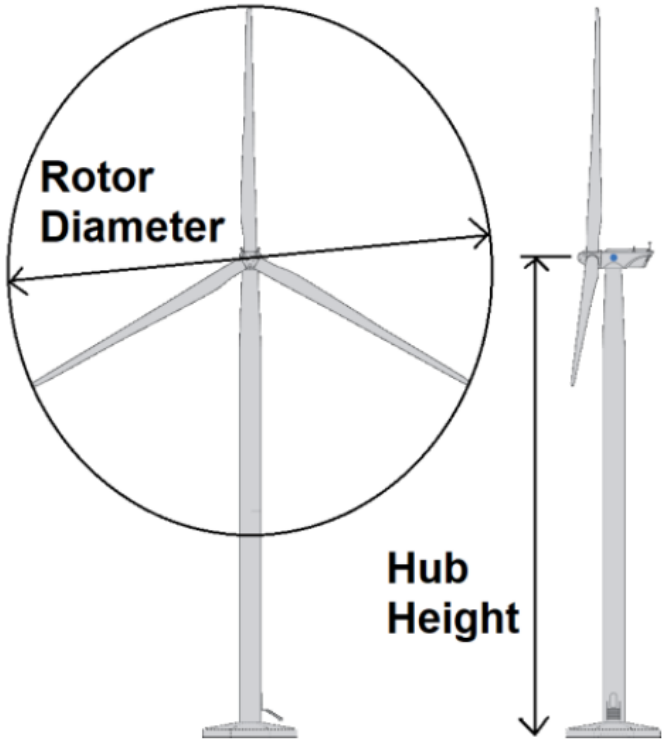
- **Proposed number of turbines.** 78 proposed locations. Only 71 will be constructed.
- **Generation Capacity.** 200 megawatts (MW).
- **Point of Interconnect (POI).** New Substation constructed on the existing Fort Thompson to Oahe 230 kV transmission line.
- **Underground Collection and Substation.** All of the wind turbines will be connected by underground 34.5 kV collection lines. Voltage is stepped up to 230 kV at the project substation.
- **Operations and Maintenance facility.** O&M activities will share the use of the O&M facility that was constructed for the Triple H project. An additional building may be constructed on the 6 acre parcel to support additional activities from the North Bend Wind Project.
- **Permanent Meteorological Tower.** To monitor performance and wind conditions. One unguyed tower proposed.

North Bend Wind Project

General Electric – 2.82-127 Wind Turbine

- Proposed Wind Turbine – General Electric 2.82-127 wind turbine generator

Design Features	GE 2.82-127
Nameplate Capacity	2.82 MW
Hub Height	89 m (292 ft.)
Rotor Diameter	127 m (417 ft.)
Total Height	151.2 m (496 ft.)
Cut-in Wind Speed	3 m/s (6.7 mph)
Cut-out Wind Speed	30.0 m/s (67.0 mph)



North Bend Wind Project

Wanzek Construction – General Contractor

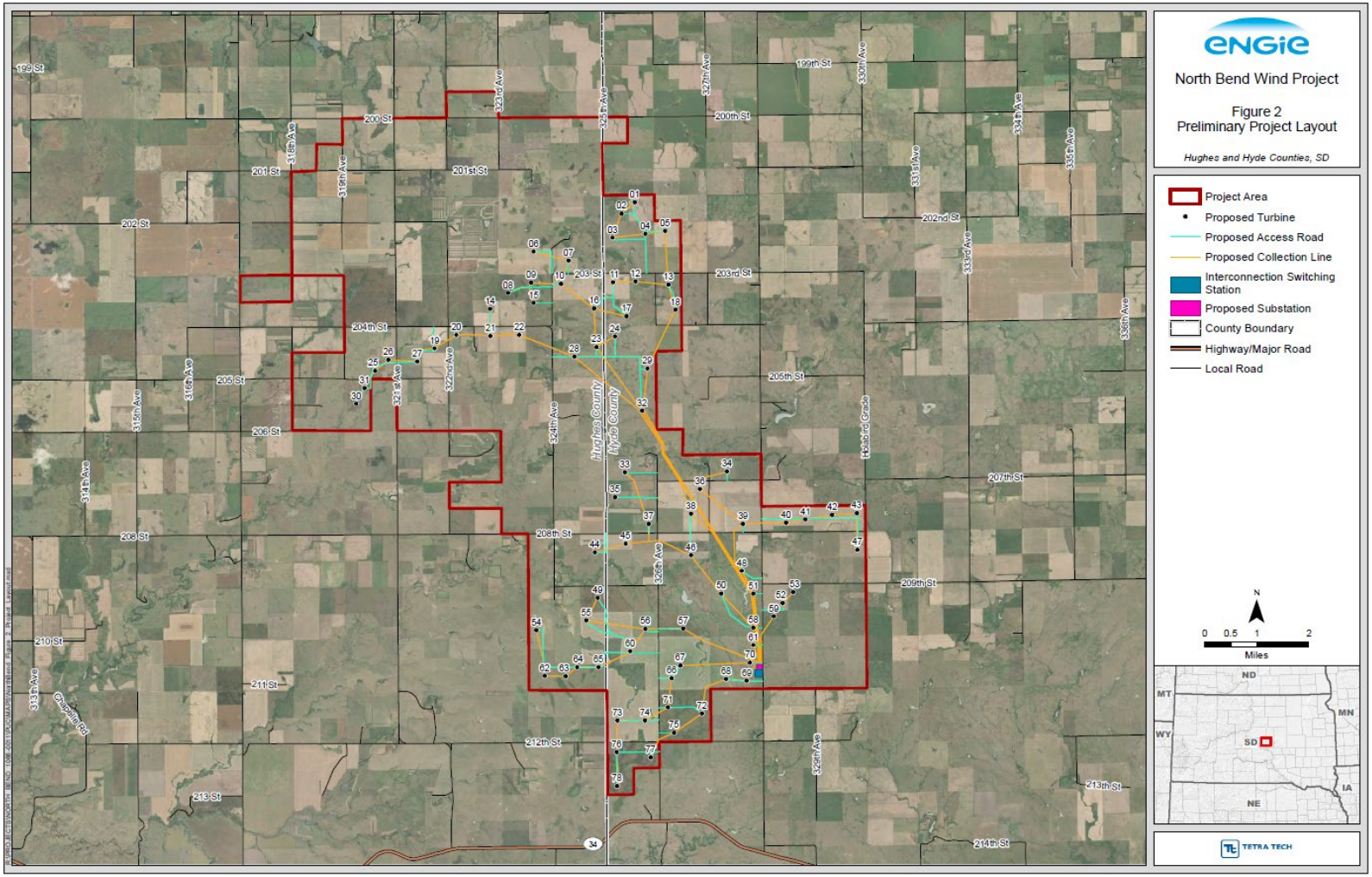
- Wanzek Construction was selected as the General Contractor after a RFP process.
- Wanzek is considered one of the top three wind turbine construction contractors doing work in the United States.
- Based in Fargo, North Dakota.
- Completed construction on 13,000 MW of wind energy projects constituting over 6,200 wind turbines in the United States as of the end of 2020
- Wanzek will complete all of the preliminary/final engineering and will complete the construction of the North Bend Wind Project.
- Wanzek has successfully constructed a number of wind projects in South Dakota, including the Triple H Wind Project and Dakota Range III.

WANZEK

a MasTec company

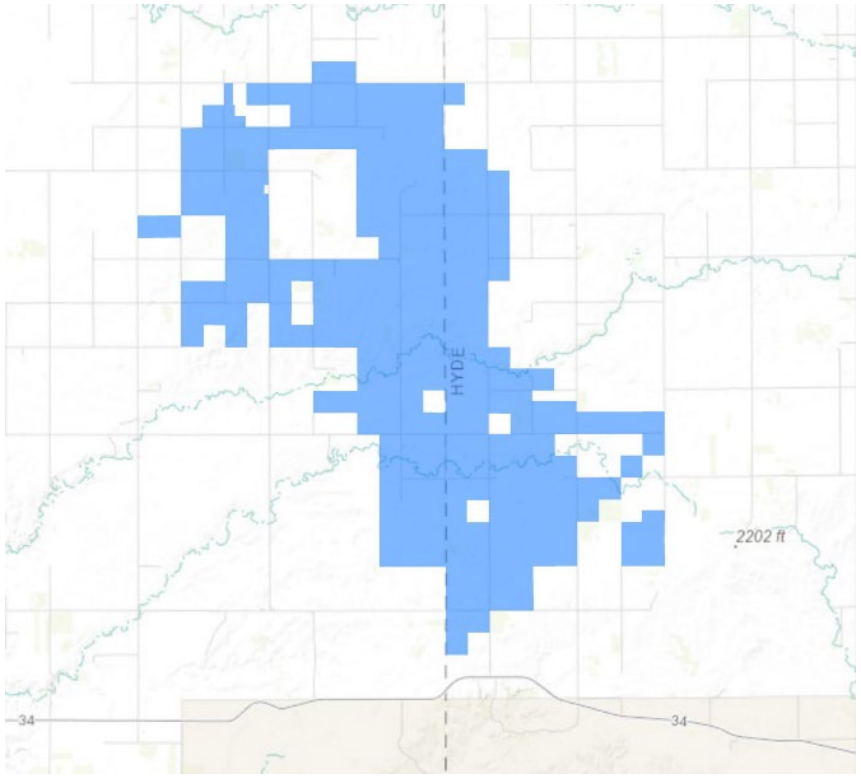
North Bend Wind Project

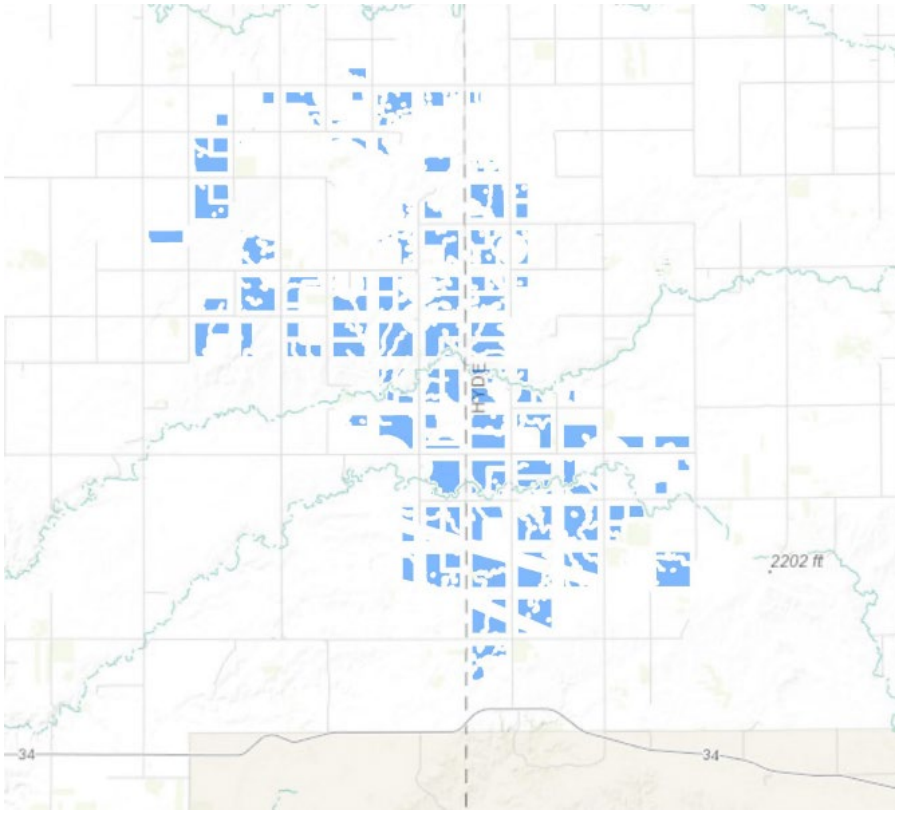
Site Map



North Bend Wind Project

Useable Turbine Area





- All of the area under easement cannot necessarily be developed.
- Setbacks – Roads, property boundaries, environmental constraints (USFWS grassland easements, protected wetland basins, etc), beam paths, houses, significantly reduce the area that could be considered.
- North Bend – Approximately 21.1% of the area under easement could be used for turbine siting

North Bend Wind Project
Acoustic and Shadow Flicker Analysis

- Acoustic Analysis
  - Hughes and Hyde County Zoning Ordinances adopted an acoustic standard for wind projects.
  - County threshold is 45 decibels at existing occupied residences, but allows this threshold to be exceeded if a waiver is signed by the landowner.
  - 2 participating residences exceeded 45 decibels, but the landowners that have granted a waiver.
  - Engie has committed to use GE's low noise, trailing edge option to reduce noise generated by the turbines.
  - Appendix D of the Facility Permit Application includes the detailed acoustic analysis.
- Shadow Flicker Analysis
  - Hyde County Zoning Ordinance adopted a shadow flicker standard for wind projects.
  - County threshold is 30 hours of exposure per year at occupied residences.
  - 1 participating residences exceeded this threshold, but the landowners that have granted a waiver.
  - Appendix E of the Facility Permit Application includes the detailed shadow flicker analysis.

North Bend Wind Project
Discretionary Permit Approvals

- Hyde and Hughes Counties
  - Conditional Use Permit
    - Hyde County Hearing is scheduled for August 10, 2021
    - Hughes County has not formally confirmed a date for the hearing. Tentatively targeted for the end of September.
  - Road Use Agreement
    - Has not been executed with either County.
    - Planning to work with the Counties after the CUP hearing.
    - Anticipated to be similar to the agreement executed for Triple H Wind Project.
- South Dakota Public Utilities Commission
  - Facilities Permit
    - Application Filed – June 23, 2021, 2021.
    - Public Input Meeting – August 11, 2021.
    - Statutory Deadline – March 23, 2022.

North Bend Wind Project
Decommissioning Plan

- Decommissioning Plan is currently being developed for the North Bend Wind Project.
- Addresses removal and decommissioning at the end of Project life.
- Decommissioning involves
  - Removal of all above ground structures
  - Removal of below ground structures to a depth of 4 feet per landowner agreement
  - Restoration of topsoil
  - Revegetation and seeding
- Estimated decommissioning cost is expected to be similar to what had been identified for the adjacent Triple H Wind Project.
- The decommissioning plan will be submitted to the project docket upon completion.

North Bend Wind Project
Project Benefits

- Capital Investment - $265-285 Million.
- The Project would create approximately 8-10 full time positions during operation. O&M activities will be conducted jointly between Triple H and North Bend.
- During construction the Project would employ 400 people during construction with up to 130 onsite at any one point.
- Project is projected to generate approximately $967,000 annually in production taxes or over $29 M over the 30 year project life.
  - State – Approximately $293,000 annually.
  - Counties – Approximately $337,000 annually.
  - School Districts – Approximately $337,000 annually.
- Stable and long term payment to the landowners directly participating in the project.
- Indirect benefits – Increased use of local services/suppliers, sales tax generation.

North Bend Wind Project
Preliminary Project Schedule

- PUC Facilities Permit Issuance – March 2022
- Final Design and Engineering – December 2021 to April 2022
- Start of Construction – April 2022
- Civil Construction Work – April – June 2022
- Turbine Deliveries – June – August 2022
- Substation Energization – October 2022
- Commercial Operation Date – November 2022

* The dates above are estimated as major contracts (BOP, TSA, GIA) have not been executed for the North Bend Wind Project.

Thank You

Casey Willis, Senior Advisor

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